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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,650	03/19/2004	Kurt Schwarzwald	1049.016D1	7763
25215 7590 01/30/2007 DOBRUSIN & THENNISCH PC 29 W LAWRENCE ST SUITE 210 PONTIAC, MI 48342			EXAMINER HUSON, MONICA ANNE	
			ART UNIT	PAPER NUMBER
			1732	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/30/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/804,650

Applicant(s)

SCHWARZWALDER ET AL.

Examiner

Monica A. Huson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 21-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the Amendment filed 14 November 2006.

Claim Objections

Claims 2 and 6 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the section mold" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 23 and 25 are rejected under 35 U.S.C. 102(a) as being

anticipated by Tilton et al. (U.S. Patent 6,572,723).

Regarding Claim 23, Tilton shows that it is known to carry out a method of forming a polymeric component (Abstract) comprising providing a primary extrusion in a solid state, the primary extrusion formed of a polymeric material (Column 2, lines 13-14); zone heating at least one portion of the primary extrusion to create a molten zone of the polymeric material within the at least one portion, leaving surrounding portions of the polymeric material of the primary extrusion in a solid state (Column 2, lines 1-11, 19-29); and compressing the molten zone, after formation thereof, between a pressing unit and a die cavity until the molten zone takes the shape of the pressing unit and die cavity and forms a solid state section molded feature integral with the primary extrusion (Column 2, lines 30-36; 44-45; Column 6, lines 22-29).

Regarding Claim 25, Tilton shows the process as claimed as discussed in the rejection of Claim 23 above, including a method wherein the pressing unit is at a temperature below the temperature of the molten zone during the step of compressing the molten zone (Column 5, lines 53-56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-12 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (U.S. Patent 6,599,612), in view of Rasmussen (U.S. Patent 4,377,544). Regarding Claim 1, Gray shows that it is known to carry out a method for forming a polymeric component (Column 1, lines 30-31), comprising providing a polymeric film (Column 5, lines 4-5), zone heating at

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least one portion of the film to create a molten zone within the at least one portion, leaving surrounding portions of the film in a solid state (Column 6, lines 15-23, 44-49); aligning the at least one molten zone with a die cavity of the mold in preparation for pressurizing the molten zone (Figure 3, element 10, 15, 16); and compressing the at least one portion using pressure until the at least one portion takes the shape of the die cavity and forms a solid state section molded feature integral with the primary extrusion (Figure 3, element 22A provides pressure, feature=50). Gray does not particularly show an extruded film or using a pressing unit in conjunction with a die cavity. Rasmussen shows that it is known to carry out a method for forming a polymeric component (Title) including heating a polymeric compound and forcing the heated compound through an orifice to form a heated extrusion (Column 4, lines 41-42; heating prior to extrusion is implicitly present), cooling the heated extrusion to form a primary extrusion in a solid state (Column 4, line 43; cooling would implicitly take place during stretching), and compressing the resulting extrusion between a pressing unit and a die cavity until the melted portion takes the shape of the pressing unit and die cavity (Figure 7, element 31, 36; Column 4, lines 51-54). Rasmussen and Gray are combinable because they are concerned with a similar technical field, namely, methods of local heating during shaping processes. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's extrusion process to produce Gray's film due to the exceptional technological applications of extrusion to film-making, and it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's pressing unit/die cavity combination during Gray's shaping process in order to insure equal pressure to all parts of the molten resin.

Regarding Claim 2, Gray shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show extruded film.

Rasmussen shows that it is known to carry out a method for forming a polymeric component (Title) including heating a polymeric compound and forcing the heated compound through an orifice to form a heated extrusion (Column 4, lines 41-42; heating prior to extrusion is implicitly present), cooling the heated extrusion to form a primary extrusion in a solid state (Column 4, line 43; cooling would implicitly take place during stretching). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's extrusion process to produce Gray's film due to the exceptional technological applications of extrusion to film-making.

Regarding Claim 3, Gray shows the process as claimed as discussed in the rejection of Claim 1 above, including a method further comprising aligning the zone heating and compression steps in an off-line operation, and forming the section molded portion in the off-line operation (Figure 1; The examiner is interpreting that since the film 10 is already on a roll, it is "off-line" relative to the line where the film was produced.), meeting applicant's claim.

Regarding Claim 4, Gray shows the process as claimed as discussed in the rejection of Claim 2 above, but he does not show aligning the zone heating and compression steps in an in-line operation. Rasmussen shows that it is known to carry out a method further comprising aligning the heating, cooling, zone heating, and compression steps in an in-line operation, and forming the polymeric component in the in-line operation (Column 4, lines 41-43, 46-59; Figures 2, 6; The examiner is interpreting that since the film 1 is shown as extruded (extruder not shown), it is "in-line" relative to the line on which the film was produced.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's in-line production process during Gray's molding method in order to avoid the cost of rolling the film post-extrusion or the cost of storing various rolls of film.

Regarding Claim 5, Gray shows the process as claimed as discussed in the rejection of Claim 1 above, including a method comprising applying radiant zone heating (Column 5, lines 11-12), meeting applicant's claim.

Regarding Claim 6, Gray shows the process as claimed as discussed in the rejection of Claim 1 above, including providing a section mold unit having at least one die cavity for forming a section molded feature integral to the primary extrusion in combination with a compression force (Figure 3, element 15, 22A, 16; compression is provided by fluid pressure 22A), and aligning the at least one molten zone with a corresponding die cavity of the section mold in preparation of compression of the molten zone (Figure 3, element 15, 16, 10). Gray does not particularly show a pressing unit in conjunction with a die cavity. Rasmussen shows that it is known to carry out a method including compressing the resulting extrusion between a pressing unit and a die cavity until the melted portion takes the shape of the pressing unit and die cavity (Figure 7, element 31, 36; Column 4, lines 51-54). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's pressing unit/die cavity combination during Gray's shaping process in order to insure equal pressure to all parts of the molten resin.

Regarding Claim 9, Gray shows the process as claimed as discussed in the rejection of Claim 1 above, including a method comprising simultaneously zone heating a plurality of portions along the length of the primary extrusion to simultaneously create a plurality of molten zones, leaving the surrounding portions of the primary extrusion in a solid state (Figure 3, elements 21A); and providing a section mold having a plurality of die cavities and compression areas, aligning each portion having a molten zone with a corresponding die cavity of the section mold (Figure 3, element 22A, 16). Gray does not particularly show a pressing unit in conjunction with a die cavity. Rasmussen shows that it is known to carry out a method including compressing the

resulting extrusion between a pressing unit and a die cavity until the melted portion takes the shape of the pressing unit and die cavity (Figure 7, element 31, 36; Column 4, lines 51-54). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's pressing unit/die cavity combination during Gray's shaping process in order to insure equal pressure to all parts of the molten resin.

Regarding Claim 10, Gray shows the process as claimed as discussed in the rejection of Claim 6 above, including a method comprising providing a section mold unit having a plurality of identical cavities and compression areas (Figure 3, element 15, 22A). Gray does not particularly show a plurality of pressing units in conjunction with a plurality of die cavities. Rasmussen shows that it is known to carry out a method including providing a plurality of identical cavities and pressing units (Figure 7, element 31, 36, 38; Column 4, lines 51-54). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's plurality of pressing unit/die cavity combinations during Gray's shaping process in order to insure equal pressure to all parts of the molten resin.

Regarding Claim 11, Gray shows the process as claimed as discussed in the rejection of Claim 6 above, including a method comprising providing a section mold unit having a plurality of die cavities and compression areas and wherein at least one die cavity and compression area define a section mold feature shape different from at least one other die cavity and compression area (Column 4, lines 59-62), meeting applicant's claim.

Regarding Claim 12, Gray shows the process as claimed as discussed in the rejection of Claim 1 above, including zone heating a first portion of a film to create a molten zone within the first portion, while leaving the remaining portion of the primary extrusion in a solid state (Column 6, lines 15-23, 44-49); aligning the molten zone of the first portion with the die cavity (Figure 3, element 10, 16C); compressing the first portion at the compression area and

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the die cavity until the first portion takes the shape defined by the die cavity and forms a solid state integral with the film (Figure 3, element 50); advancing the film (Figure 1, element 39), and repeating the zone heating/compression process, after compressing the first portion, for a second portion of the film (Figure 1, element 35, 41, 42; Column 8, lines 61-67; Column 9, lines 1-16). Gray does not particularly show a pressing unit in conjunction with a die cavity. Rasmussen shows that it is known to carry out a method including compressing the resulting extrusion between a pressing unit and a die cavity until the melted portion takes the shape of the pressing unit and die cavity (Figure 7, element 31, 36; Column 4, lines 51-54). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's pressing unit/die cavity combination during Gray's shaping process in order to insure equal pressure to all parts of the molten resin.

Regarding Claim 21, Gray shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the step of zone heating is accomplished with a zone heating unit and the step of compressing is accomplished with a section mold unit and the zone heating unit is separate from the section mold unit (Figure 3, element 21A, 22A; zone heating is provided by the radiant source and compression is provided by the fluid pressure), meeting applicant's claim.

Regarding Claim 22, Gray shows the process as claimed as discussed in the rejection of Claim 21 above, including a method wherein after zone heating, the film is advanced from the zone heating unit to the section mold unit and the molten zone is aligned between a compression area and a die cavity of the section mold unit (Figure 3, element 21A, 22A, 15). Gray does not particularly show a pressing unit in conjunction with a die cavity. Rasmussen shows that it is known to carry out a method including compressing the resulting extrusion between a pressing unit and a die cavity until the melted portion

takes the shape of the pressing unit and die cavity (Figure 7, element 31, 36; Column 4, lines 51-54). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Rasmussen's pressing unit/die cavity combination during Gray's shaping process in order to insure equal pressure to all parts of the molten resin.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray and Rasmussen, further in view of Tilton et al. (U.S. Patent 6,572,723). Gray shows the process as claimed as discussed in the rejection of Claim 6 above, but he does not show using a mandrel. Tilton shows a method comprising providing the die cavity to be comprised of a split die (Figure 1c, elements 28, 30; It is noted that the shape of the split die is not believed to have an effect on the method steps.) and providing the pressing unit to be comprised of an upper mandrel (Figure 1c, element 28; It is noted that the shape of the pressing unit is not believed to have an effect on the method steps.); and raising the mandrel and separating the split die to release the polymeric component (Column 6, lines 27-28). Gray and Tilton are combinable because they are concerned with a similar technical field, namely, methods sheet-like articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Tilton's mandrel during Gray's molding process in order to precisely shape the molded article in addition to shaping provided by the die cavity.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray and Rasmussen, in view of Weaver et al. (U.S. Patent 4,379,802). Gray shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show clamping the solid state portion of the extrusion prior to its compression. Weaver shows a method further comprising clamping the solid state portion of the primary extrusion to stabilize the primary layer prior

to compressing the molten zone (Column 11, lines 36-39). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Weaver's clamping step during Gray's molding process in order to avoid movement of the primary extrusion during the compression process.

Claims 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tilton, in view of Franz (U.S. Patent 4,539,252).

Regarding Claim 24, Tilton shows the process as claimed as discussed in the rejection of Claim 23 above, but he does not show a method wherein the zone heating unit is separate from the section mold unit. Franz shows that it is known to carry out a method wherein the molten zone is created by a heating element that is separate from the pressing unit and die cavity (Figure 2b, elements 12, 13, 14). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Franz's separate heating element during Tilton's molding process in order to facilitate the removal or exchange of the heating element when the heating element is broken or needs to be upgraded.

Regarding Claim 26, Tilton shows the process as claimed as discussed in the rejection of Claim 24 above, including a method wherein the pressing unit is at a temperature below the temperature of the molten zone during the step of compressing the molten zone (Column 5, lines 53-56). Tilton does not show a method wherein the zone heating unit is separate from the section mold unit. Franz shows that it is known to carry out a method wherein the molten zone is created by a heating element that is separate from the pressing unit and die cavity (Figure 2b, elements 12, 13, 14). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Franz's separate heating element during Tilton's molding process in order to

facilitate the removal or exchange of the heating element when the heating element is broken or needs to be upgraded.

Regarding Claim 27, Tilton shows the process as claimed as discussed in the rejection of Claim 26 above, including a method wherein, after zone heating, the primary extrusion is advanced from the zone heating unit to the section mold unit and the molten zone is aligned between a pressing unit and a die cavity of the section mold unit (Figure 1c, elements 28, 30; Figures 1a-1d; Column 8, lines 7-9), meeting applicant's claim.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tilton and Franz, further in view of Weaver. Tilton shows the process as claimed as discussed in the rejection of Claim 27 above, including showing aligning the heating, cooling, zone heating, and compression steps in an in-line operation; and forming the polymeric component in the in-line operation, wherein the molten zone is created by locating a heating element within close proximity of a surface of the primary extrusion (Figures 1a-1d; Column 2, lines 13-14; Column 5, lines 24-65). Tilton does not explicitly show forming the primary extrusion. Weaver shows a method comprising heating a polymeric compound and forcing the heated compound through an orifice to form a heated extrusion; and cooling the heated extrusion to form a primary extrusion in a solid state (Column 11, lines 49-51). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Weaver's extrusion step as that which forms Tilton's primary extrusion in order to properly mold a primary extrusion into the shape that is desired for certain end-use specifications.

Response to Arguments

Applicant's arguments with respect to claims 1-12 and 21-22 have been considered but are moot in view of the new ground(s) of rejection.

It is noted that applicant neither amended nor specifically argued the rejection of claims 23-28.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monica A Huson

January 24, 2007



CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER
1/24/07